Complete Summary

GUIDELINE TITLE

Screening for obstructive sleep apnea in the primary care setting.

BIBLIOGRAPHIC SOURCE(S)

University of Texas, School of Nursing, Family Nurse Practitioner Program. Screening for obstructive sleep apnea in the primary care setting. Austin (TX): University of Texas, School of Nursing; 2006 May. 13 p. [24 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Obstructive sleep apnea

GUIDELINE CATEGORY

Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Cardiology
Family Practice
Internal Medicine

Neurology
Nursing
Otolaryngology
Pulmonary Medicine
Sleep Medicine

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Nurses
Physician Assistants
Physicians
Respiratory Care Practitioners
Students

GUIDELINE OBJECTIVE(S)

To provide evidence-based practice guidelines regarding screening for obstructive sleep apnea in the primary care setting

TARGET POPULATION

Patients with obstructive sleep apnea (OSA) as well as:

- Overweight patients with a body mass index (BMI) >25
- Patients with excess adipose tissue in the neck (Neck circumference >16 [women], >17 [men])
- Patients with a history of snoring or excessive daytime sleepiness
- Patients with erectile dysfunction of undetermined etiology
- Patients with hypertension
- Patients with congestive heart failure (CHF)
- Patients with arrhythmias
- Patients with cerebral vascular disorders (transient ischemic attack [TIA], Stroke, Dementia)

Other risk factors and comorbidities such as

- Patients who currently smoke or have smoked heavily in the past, or consume alcohol
- Patients with hypothyroidism
- Patients with risk factors for cardiovascular disease
- Patients with coronary artery disease, family history of obstructive sleep apnea (OSA), depression, diabetes
- Patients who complain of fatigue
- Post-menopausal women

INTERVENTIONS AND PRACTICES CONSIDERED

Risk Assessment/Screening

1. Subjective assessment including past medical and family history, and symptoms
2. Objective assessment/physical examination including vital signs (blood pressure, pulse, respiration); height, weight, and body mass index (BMI); head, eye, ear, nose, and throat (HEENT); thyroid assessment; cardiovascular and pulmonary assessment, and psychological assessment for presence of depression
3. Diagnostic tests if appropriate, including screening patients at risk of obstructive sleep apnea (OSA) using Epworth Sleepiness Scale; nocturnal polysomnographic diagnostic testing (NPSG Sleep Study); thyroid-stimulating hormone study; sleep diary
4. Differential diagnosis

Management

1. Referral to pulmonologist or sleep specialist
2. Follow-up

MAJOR OUTCOMES CONSIDERED

- Quality of life
- Complications of obstructive sleep apnea and worsening of co-morbid conditions

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Online searches were performed for dates January 2000 to January 2006 of the following databases: CINAHL, Medline, Pubmed, Cochrane, Academia Search Premier (Major keywords used in searches: Obstructive Sleep Apnea, Primary Care, Snoring, Apnea, Sleep Apnea Syndromes/prevention & control, Hypertension, Sleep disorders, Daytime sleepiness). Position statements from the American Academy of Sleep Medicine, American Heart Association, and American Association of Sleep Apnea were also reviewed. Additional resources were identified by review of bibliographies of relevant articles and published guidelines.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Subjective Review
Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Quality of Evidence (Based on U.S. Preventive Services Task Force Ratings)

Good: Evidence includes consistent results from well-designed, well-conducted studies in representative populations that directly assess effects on health outcomes

Fair: Evidence is sufficient to determine effects on health outcomes, but the strength of the evidence is limited by the number, quality, or consistency of the individual studies, generalizability to routine practice, or indirect nature of the evidence on health outcomes.

Poor: Evidence is insufficient to assess the effects on health outcomes because of limited number or power of studies, important flaws in their design or conduct, gaps in the chain of evidence, or lack of information on important health outcomes.

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Strength of Recommendations (Based on U.S. Preventive Services Task Force Ratings)

A. There is good evidence that the recommendation improves important health outcomes. Benefits substantially outweigh harms.

B. There is at least fair evidence that the recommendation improves important health outcomes. Benefits outweigh harms.

C. There is at least fair evidence that the recommendation can improve health outcomes but the Balance of benefits and harms is too close to justify a general recommendation.

D. There is at least fair evidence that the recommendation is ineffective or that harms outweigh benefits.

I. Evidence that the recommendation is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

External Peer Review
Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline was developed by a group of family nurse practitioner (FNP) students and submitted for review to FNP program faculty and expert reviewers. Before submitting to the guideline committee, revisions were made based on reviewer recommendations.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Strength of recommendations (A, B, C, D, I) and quality of evidence (good, fair, poor) are defined at the end of "Major Recommendations" field.

Subjective Assessment

1. Chief complaint(s) and/or clinical manifestations
    - Complaints of frequent nocturnal awakenings
    - Complaints of difficulty concentrating
    - Complaints of problems with memory
    - Complaints of snoring and/or apnea by patient or significant other
    - Complaints of daytime sleepiness or fatigue
    - Complaints of depression
    - Sleep Assessment
2. Review of Systems
    - General
    - Head, eyes, ears, nose, and throat (HEENT)
    - Endocrine
    - Heart
    - Lungs
    - Genitourinary (GU)
    - Gastrointestinal (GI)
    - Musculoskeletal (MS)
    - Neurological
    - Psychiatric
3. History of present illness
    - Onset and duration of symptom complaints
    - Body weight changes

- Lifestyle habits, such as diet, exercise, smoking, alcohol or drug use
- Quantity and quality of sleep

4. Past medical history
    - Note hospitalizations, surgeries, and any/or procedures
    - History of any trauma
    - Co-morbid conditions such as: diabetes, hypertension, congestive heart failure (CHF), arrhythmias, cardiovascular disease, hypothyroid, depression, gastroesophageal reflux disease, nocturnal cardiac ischemia, asthma
5. Medications
    - Current prescription medications
    - Any or all over the counter medications, including alternative medicines or herbal treatments
    - Note previous sleep treatments, including use of sedatives or sleeping aids and response
6. Family history
    - Obstructive sleep apnea (OSA)
    - Diabetes
    - Hypertension
    - Hypothyroid
    - Coronary artery disease
    - Cerebrovascular accident (CVA)
    - Depression
7. Psychosocial history
    - Assess for depression, suicidal ideations, irritability, personality changes, and cognitive impairment
    - Mental illness
    - Support systems, coping strategies

(If OSA is suspected, important to inquire on type of job, if operating heavy machinery, counseling regarding potential dangers, i.e., increased risk of motor vehicle crashes secondary to sleep deprivation) (Netzer et al., 2003; Schroder, 2005; Elliot, 2001; Mansfield & Naughton, 2005)

Objective Assessment/Physical Examination

- Vital signs, including blood pressure, pulse, respirations: OSA is a leading cause of hypertension (The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation and Treatment of High Blood Pressure [JNC-7], 2003) **(Strength of Recommendation: B; Quality of Evidence: Fair)**
- Height, weight, body mass index (BMI) calculation; BMI 25-30 indicates overweight, BMI >30 indicates obesity **(Strength of Recommendation: B; Quality of Evidence: Fair)**
- HEENT: assess upper airway airflow obstruction, nasal polyps, septal deviation, mucosal congestion, turbinate hypertrophy, enlarged tonsils, large tongue volume, small jaw (micrognathia)
- Measurement of neck circumference: >16 (women), >17 (men)
- Neck exam: assess for thyroid enlargement **(Strength of Recommendation: B; Quality of Evidence: Fair)**
- Cardiovascular exam: assess for rhythm regularity, bruits, murmurs (high prevalence with cardiovascular disease [CVD], CHF, arrhythmias, and

hypertension (Hamilton, Solin, & Naughton, 2004; American Heart Association, 2005; JNC-7, 2003; Shahar et al., 2001 **(Strength of Recommendation: B; Quality of Evidence: Fair)**

- Pulmonary exam: assess breath sounds and quality of respirations
- Abdominal exam: waist-hip ratio to determine body fat distribution: >0.72 = abnormal
- Musculoskeletal: deformities, swelling, or pain with movement
- Neurological exam: sensory function, balance, deep tendon reflexes
- Psychiatric exam: administration of depression screening form (Netzer et al., 2003; Schroder, 2005; Elliot, 2001; Mansfield & Naughton, 2005; Hamilton, Solin, & Naughton, 2004; Stevenson, 2003)

(Strength of Recommendation: B; Quality of Evidence: Fair)

Diagnostic Procedures

1. Laboratory studies
    - Sleep questionnaire (e.g., Epworth Sleepiness Scale), screen for sleep abnormalities (Elliott, 2001) **(Strength of Recommendation: A; Quality of Evidence: Good)**
2. Diagnostic tests
    - NPSG Sleep Study: Nocturnal polysomnographic diagnostic testing (Netzer et al., 2003; Schroder, 2005; Elliot, 2001; Mansfield & Naughton, 2005; Hamilton, Solin, & Naughton, 2004; Rodsutti et al., 2004) **(Strength of Recommendation: A; Quality of Evidence: Good)**

Differential Diagnoses

1. Narcolepsy
2. Idiopathic daytime hypersomnolence
3. Inadequate sleep time
4. Depressive episodes
5. Asthma
6. Chronic obstructive pulmonary disease (COPD)
7. CHF
8. Panic attacks
9. Gastroesophageal reflux disease (GERD)
10. Sleep associated seizures
11. Anemia
12. Fibromyalgia
13. Restless leg syndrome

(Netzer et al., 2003; Schroder, 2005; Elliot, 2001; Mansfield & Naughton, 2005; Hamilton, Solin, & Naughton, 2004; Rodsutti et al., 2004)

(Strength of Recommendation: C; Quality of Evidence: Fair)

Management/Treatment

Referral to pulmonologist, sleep specialist **(Strength of Recommendation: B; Quality of Evidence: Fair)**

Patients should be referred for abnormal polysomnogram results and/or sleep complaints consistent for 3 to 6 months with restless leg syndrome, periodic limb movements, narcolepsy, or complex motor activity. (Elliott, 2001) **(Strength of Recommendation: B; Quality of Evidence: Fair)**

Follow Up

Obtain records from referral physician, and assess patient's adherence to recommendations of management/treatment. **(Strength of Recommendation: I; Quality of Evidence: Poor)**

Definitions:

Quality of Evidence (Based on U.S. Preventive Services Task Force Ratings)

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Strength of Recommendations (Based on U.S. Preventive Services Task Force Ratings)

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I. Evidence that the recommendation is effective is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

These guidelines are based on sources such as research studies (randomized controlled trials), meta-analysis, literature reviews, practice guidelines and statements from the American Academy of Sleep Medicine and the American Association of Sleep Apnea.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Improved screening and identification of patients with obstructive sleep apnea
- Improved diagnosis and referral for management and treatment of obstructive sleep apnea
- Improved quality of life for patients with obstructive sleep apnea:
    - Return of normal sleep patterns
    - Decreased daytime sleepiness or fatigue
    - Prevention of co-morbidities associated with untreated sleep apnea: (hypertension, cardiovascular disease, congestive heart failure, strokes, heart attacks)

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

This guideline provides a general screening and assessment for patients who are at risk for obstructive sleep apnea.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

IMPLEMENTATION TOOLS

Chart Documentation/Checklists/Forms

For information about availability, see the "Availability of Companion Documents" and "Patient Resources" fields below.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006 May

GUIDELINE DEVELOPER(S)

University of Texas at Austin School of Nursing, Family Nurse Practitioner Program - Academic Institution

SOURCE(S) OF FUNDING

University of Texas at Austin, School of Nursing, Family Nurse Practitioner Program

GUIDELINE COMMITTEE

Practice Guidelines Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

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External Reviewer: Robert J. Morrison, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: None available.

Print copies: Available from the University of Texas at Austin, School of Nursing. 1700 Red River, Austin, Texas, 78701-1499

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on August 25, 2006. The information was verified by the guideline developer on November 14, 2006.

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